

AMENDMENTS TO THE SPECIFICATION:

Page 16, replace the last paragraph, bridging pages 16 and 17, with the following amended paragraph:

--In the first embodiment, in the DH mesa-stripe 6, a well layer and a barrier layer are strained growth layers. In the recombination layer 16, semiconductor layers corresponding to the optical confinement layers 2 and 4, the well layer, and the barrier layer are strained growth layers. For reference, a relationship between a critical strain amount and a critical film thickness is indicated by a solid line. In growth up to the strained final layer, a black solid circle indicated by the average strain amount and the total thickness of grown layer is above the solid line, it is shown that the strain amount and thickness of the growth layer exceed the critical strain amount and the critical layer thickness, respectively. Dislocation may occur due to relaxation of strain. FIG. 3 is a calculation result of the structure of the present invention shown in the first embodiment. FIG. 4 is a calculation result of a structure in which a strain amount of a barrier layer is set at -0.93% to make the average strain amount ϵ_1 (average) in the DH mesa-stripe almost zero strain (ϵ_1 (average) = 0) as described in Non-patent Documents 1 to 3 in the structure of the present invention shown in the first embodiment. In this case, as shown in FIG. 4, when the average strain amount ϵ_1 (average) of the DH mesa stripe is made almost zero strain (ϵ_1 (average) = 0), the average strain

amount ϵ_2 (average) of the recombination layer exceeds a critical strain amount on a tensile strain side, and dislocation may be caused by lattice relaxation. However, in ~~contrast~~ contrast to this, in FIG. 3 (structure of the present invention), the average strain amount ϵ_1 (average) in the DH mesa-stripe shifts to a compression-strain side. Accordingly, the average strain amount ϵ_2 (average) of the recombination layer decreases (shift to the right in FIG. 3). As a result, it is understood that both the average strain amount ϵ_1 (average) of the DH mesa-stripe and the average strain amount ϵ_2 (average) of the recombined layer do not exceed the critical strain amount.--